

inference. The disproof consists in the fact that my animals did do by chance, and learn by association, representative acts (*e. g.*, using thumb-latch and button) of those which have been fancied to require reason. Further they would, in the case of some difficult associations, happen to do the thing six or seven times, but after long periods of promiscuous scrabbling, and then forever after would fail to do it. If they had acted from inference in any case they ought not to have failed in the seventh or eighth trial. What had been inferred six times should have been inferred the seventh. Finally, in all associations, the decrease in the time taken is gradual. Even after doing the thing the animal does not know enough to realize what it has done, and thereafter do it as soon as put in the box."

This opinion is wholly negative, as regards imitation in cats, dogs and chickens, the conclusion being that "no association leading to an act could be formed unless there was included in the association an impulse of the animal's own." He quite excludes any notion of idea, therefore, from the animals on which he worked. The fundamental thing in animals is impulse, such, *e. g.*, as a man has as his active consciousness when he plays an athletic game. The memory of these animals is considered purely neural and motor.

Suggestions for educational science, anthropology, and psychology arising from these considerations are appended, and form an interesting part of the work. Eleven pages of statistical time-curves and several descriptive illustrations doubtfully elucidate the text.

If the principles of this researcher's conclusions were to be disproven it could be done only by work yet more patient and "scientific" than that of Dr. Thorndike here described, and this were a difficult task. It seems to stand to-day really the last, and in general the best, word on a very essential problem.

DEARBORN.

ESSENTIALS OF DISEASES OF THE SKIN, INCLUDING THE SYPHILODERMATA. Arranged in the form of questions and answers. Prepared especially for students of medicine by Henry W. Stelwagon, M.D., Ph.D., Clinical Professor of Dermatology in the Jefferson Medical College; Physician to the Department for Skin Diseases, Howard Hospital; Dermatologist to the Philadelphia Hospital, etc. Fourth edition, thoroughly revised. Illustrated. Philadelphia: W. B. Saunders, 925 Walnut street. 1899.

The fourth edition of this compend does not markedly differ from its predecessor. Dermatology has not made such rapid advances in the last few years as to greatly affect the literature, and but few changes have been necessary to make this little volume representative of the science as it is taught to-day. In addition to these, descriptions have been added of some of the rarer affections not previously mentioned. The general excellence of the various members of this series of students' quiz books is so widely recognized that further particularization of the merits of this one is hardly necessary; it is sufficient to say that in all respects it is quite up to the high standard of its fellows and may safely be recommended to the student.

VOGEL.

HANDBUCH DER ANATOMIE UND VERGLEICHENDEN ANATOMIE DES CENTRALNERVERNSYSTEMS DER SAUGETHIERE. Von Dr. Edw. Flatau und Dr. L. Jacobsohn. Bd. I. Makroskopischer Teil. Verlag von S. Karger, Berlin, 1899.

It would be practically impossible in a short review to even touch upon the many estimable features of a work so extensive as the one before us. Workers in experimental medicine have long since felt the want of a treatise on the comparative anatomy of the nervous system.

Apart from the few remarks in Edinger's and Kölliker's textbooks, medical and biological literature are practically barren of any extensive work on this subject. Under such conditions a treatise of any kind would have been acceptable; but a work so comprehensive in its scope, so thorough in its elaboration, and so finished in its pictured and written descriptions not only fills a long-felt want, but fills it so thoroughly and completely as to leave little cause for complaint in the future. This volume is devoted entirely to a consideration of the gross appearances. The relations of the different portions of the encephalon to each other and to corresponding portions in the brains of other types, and the anatomical relations of the convolutions to the superficial structures are considered under appropriate headings.

In the arrangement of the book, the higher types are considered first, and after these the next lower types are taken up seriatim. To those already conversant with the detailed anatomy of the human brain, this arrangement is probably the best that could have been selected. For the student of biology, or of veterinary medicine, however, an arrangement just the reverse of this would be better suited for the elucidation of the subject. The book, however, is intended for the investigator and not for the student; it is a practical work for facilitating the study of the nervous system by work on the lower animals, although the scientific side of the subject, such as would appeal to the biologist, has not been slighted. In many of the chapters the brain of one member of a family is taken as a type and described, and the other members considered in their relation to the type described. The simiæ are represented by the chimpanzee, orang-outang, macacus and hapale. The second chapter is devoted to the prosimii. Under this heading maki and stenops are studied in detail, and several other genera receive brief consideration. The third chapter is taken up with the very important consideration of the field mouse. Among the carnivora, the dog, cat and badger are described in detail. Chapter seven is devoted to a very careful, detailed discussion of the brain of the rabbit, guinea pig and rat. The remaining chapters of the book deal with the pig, horse, elephant, squirrel, manatee, porpoise, dolphin, echidna, duck bill, etc.

The tables devoted to the elaboration of the structural relations between the convolutions and the cranial bones show much painstaking labor and add considerably to the value of the work. The same might be said of the drawings in the text devoted to the same object. The extensive tables devoted to a comparison of absolute and relative brain weights are also evidence of the care taken in the preparation of the work. The determination of the relative and absolute brain weight is not of such practical importance as its place in the book would seem to indicate.

The book has 126 illustrations in the text and twenty-two illustrations on seven plates.

If there be room for any criticism of the work it is that in the description, very often the brain of an individual is taken as a type, and the variations in the arrangement in the convolutions of different individuals are left out of consideration. Such minor anomalies of arrangement which occur so frequently as almost to come under the pale of normal structure, often puzzle and at times mislead the operator on the cortex of the lower animals. Too much cannot be said in praise of the work, and no investigator in the field of experimental medicine, especially in that pertaining to neurology, can afford to be without it.

MCCARTHY.